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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/554,051	11/06/2006	Volker Krink	P70917US0	8301
	7590 05/16/200 OLMAN PLLC	EXAMINER		
400 SEVENTH	STREET N.W.	PASCHALL, MARK H		
SUITE 600 WASHINGTON, DC 20004			ART UNIT	PAPER NUMBER
			3742	
			MAIL DATE	DELIVERY MODE
			05/16/2008	PAPER

# Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)				
Office Action Occurrence	10/554,051	KRINK ET AL.				
Office Action Summary	Examiner	Art Unit				
	Mark H. Paschall	3742				
The MAILING DATE of this communication app Period for Reply	ears on the cover sheet with the c	orrespondence ad	ldress			
A SHORTENED STATUTORY PERIOD FOR REPLY WHICHEVER IS LONGER, FROM THE MAILING DA  - Extensions of time may be available under the provisions of 37 CFR 1.13 after SIX (6) MONTHS from the mailing date of this communication.  - If NO period for reply is specified above, the maximum statutory period w  - Failure to reply within the set or extended period for reply will, by statute, Any reply received by the Office later than three months after the mailing earned patent term adjustment. See 37 CFR 1.704(b).	ATE OF THIS COMMUNICATION 16(a). In no event, however, may a reply be tim ill apply and will expire SIX (6) MONTHS from cause the application to become ABANDONEI	<b>J.</b> nely filed the mailing date of this o D (35 U.S.C. § 133).				
Status						
1) Responsive to communication(s) filed on 13 Fe	bruary 2008.					
,— · · · · · · · · · · · · · · · · · · ·	action is non-final.					
3) Since this application is in condition for allowan						
closed in accordance with the practice under E						
Disposition of Claims						
4)⊠ Claim(s) 1-14 is/are pending in the application.						
,	4a) Of the above claim(s) is/are withdrawn from consideration.					
5) Claim(s) is/are allowed.						
6)⊠ Claim(s) <u>1-14</u> is/are rejected.						
7) Claim(s) is/are objected to.						
8) Claim(s) are subject to restriction and/or	election requirement.					
Application Papers						
9) The specification is objected to by the Examiner.						
10) The drawing(s) filed on is/are: a) accepted or b) objected to by the Examiner.  Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).						
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).						
	11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.					
Priority under 35 U.S.C. § 119						
<u> </u>		(4) (5)				
12) Acknowledgment is made of a claim for foreign	priority under 35 U.S.C. § 119(a)	-(α) or (τ).				
	<ul> <li>a) All b) Some * c) None of:</li> <li>1. Certified copies of the priority documents have been received.</li> <li>2. Certified copies of the priority documents have been received in Application No</li> </ul>					
3. ☐ Copies of the certified copies of the prior	• •	<u></u>	Stage			
application from the International Bureau	•	ra iii ano riadonar	Clago			
	* See the attached detailed Office action for a list of the certified copies not received.					
	,					
Attachment(s)	_					
1) Notice of References Cited (PTO-892)	4) ☐ Interview Summary Paper No(s)/Mail Da					
2) Notice of Draftsperson's Patent Drawing Review (PTO-948) 3) Information Disclosure Statement(s) (PTO/SB/08)	5) Notice of Informal P					
Paper No(s)/Mail Date	6)  Other:					

#### **DETAILED ACTION**

### Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP 0,194,634. EP teaches a plasma arc torch nozzle 18 which has a thin coating of a nitride on nozzle portions, as claimed to reduce erosion of the nozzle. It is obvious that the nitriding process to coat the nozzle, copper, are micro particles which are embedded in the copper, since nitriding is a process which injects particles into the substrate. Use

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of a particular particle size as set forth in the dependent claims is considered a choice well within the skill level of the artisan, dependent on undisclosed parameters such as power levels and gases used in the torch operation. As per claim 12 the nozzle is copper. As per claim 15 is also an obvious choice to clean the nozzle and shape it to the desired shape, such steps conventional in the machining art of metal coating.

## Response to Arguments

Applicant's arguments filed 02-13-2008 have been fully considered but they are not persuasive. Firstly, claim 1 defines a nozzle, intended to be used in a plasma torch, but merely construed as just a nozzle, since the plasma torch has not been positively recited.

Basically claim 1 defines a nozzle, with wear resistant micro particles embedded in metal. Ep 634' clearly teaches a nozzle with a coating which is nitrided on the metal. The artisan that in addition to nitriding comprising injecting of particles into a metal surface, the transition area between the coating and the substrate, metal, is a rough interface with particles of the coating embedded into the metal and vice-versa. It is clear that some particles will be embedded into the metal of the nozzle. The claims are silent as to the degree of embedding or the uniformity of embedding; only mentioning embedding of particles into a metal. It is submitted that any coating would lead to embedded particles into the coating substrate, since if the embedding was not present then the coating would literally fall off of the substrate.

#### Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark H. Paschall whose telephone number is 571 272-4784. The examiner can normally be reached on 7am - 3pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tu Hoang can be reached on 571-272-4780. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Mark H Paschall Primary Examiner Art Unit 3742

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/Mark H Paschall/ Primary Examiner, Art Unit 3742